

Serial No. 09/651,988
Page 2 of 8

IN THE CLAIMS

1. (canceled)

2. (currently amended) The layer 2 link handler as described in claim 47, wherein said path connection means, switching on a layer 2 packet level, transfers packets that arrive from said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device to the one specified path of the connection request destination.

3. (currently amended) The layer 2 link handler as described in claim 47, wherein said path connection means includes a setting means that newly sets one path of the connection request destination specified by said path specification means and connects a path between the user-side device and the specified connection destination.

4. (canceled)

5. (currently amended) The layer 2 link handler as described in claim 47, wherein said path connection means recognizes labels of layer 2 packets that arrive from said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device, said labels being assigned for each layer 2 link, and transfers the layer 2 packets to the path to the specified connection destination that corresponds to given labels, and recognizes labels of labeled layer 2 packets that arrive from the path with the specified connection

84225065_1

Serial No. 09/651,988

Page 3 of 8

destination and transfers the layer 2 packets to the permanent virtual connection path to the user-side device that corresponds to given labels.

6. (canceled)

7. (currently amended) The layer 2 link handler as described in claim 6A layer 2 link handler provided in a network-side device, the network-side device connected with a user-side device by a permanent virtual connection path of layer 1, wherein said user-side device is made to connect to one among multiple specified connection destinations via one of permanent virtual connection paths of layer 1 or switched virtual connection paths of layer 1, the layer 2 link handler comprising:

a path specification means that specifies one path of a connection request destination from layer 2 link information that is emitted from the user-side device at the time of a layer 2 link connection request; and

a path connection means that causes said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device to connect to the one specified path of the connection request destination, wherein

 said path connection means includes a labeling means that, based on layer 2 link information emitted from the user-side device at the time of a layer 2 link connection request, assigns a label of each layer 2 link of said connection request to a layer 2 packet from the user-side device, said path connection means further includes a transfer means that transfers a layer 2 packet labeled by said labeling means to the path to said specified connection destination,

84225065_1

Serial No. 09/651,988
Page 4 of 8

said labeling means includes a selecting means that, when a label is newly assigned to a layer 2 link, selects an arbitrary available label number and emits a labeled layer 2 packet, and said path connection means handles the link of the labeled layer 2 packet that is assigned the same label number, the link of the labeled layer 2 packet being sent back from the side of the device that received said labeled layer 2 packet, as a link of a pair of said layer 2 link newly assigned a label, and

said labeling means includes an assigning means that newly selects a label number and assigns said label number including in the label a marking indicating that it is a transmission from an allocated label number management side, and handles the link of the labeled layer 2 packet sent back from a reception side with the same label number, to which is added a marking indicating a transmission from the label number non-management side, as a link of the pair of the layer 2 link newly assigned a label.

8. (currently amended) The layer 2 link handler as described in claim 47, wherein said labeling means, when it newly assigns a label to a layer 2 link, determines the label number by doing a negotiation mutually with another device side.

9. (currently amended) The layer 2 link handler as described in claim 47, wherein said labeling means, when it newly assigns a label to a layer 2 link, assigns a label with a label number directed by operation of a network management operation device.

84225065_1

Serial No. 09/651,988

Page 5 of 8

10. (previously presented) The layer 2 link handler as described in claim 5, wherein said path connection means recognizes the labels of layer 2 packets that arrive from said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device, said labels being assigned according to the quality-of-service class of each layer 2 link, and transfers layer 2 packets to the path to the specified connection destination that corresponds to the given label.

11. (previously presented) The layer 2 link handler as described in claim 5, wherein said path connection means recognizes the labels of layer 2 packets that arrive from said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device, said labels being assigned according to the connection destination of each layer 2 link, and transfers layer 2 packets to a path to the specified connection destination that corresponds to the given label.

12. (previously presented) The layer 2 link handler as described in claim 5, wherein said path connection means recognizes labels of layer 2 packets assigned according to the distribution type of service in the IP packet within layer 2 link packets that arrive from said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device, and transfers layer 2 packets to the path to a specified connection destination that corresponds to the given label.

84225065_1

Serial No. 09/651,988

Page 6 of 8

13. (currently amended) The layer 2 link handler as described in claim 47, wherein said path connection means includes an extracting means that extracts a request connection destination name from layer 2 link information emitted from the user-side device at the time of a layer 2 link connection request and a conversion table that converts from said connection destination name to a connection address, and a path determining means that uses the connection address obtained from said conversion table to cause a path to be connected between the user-side device and a specified connection destination.

14. (currently amended) The layer 2 link handler as described in claim 47, wherein processing that specifies one path of the connection request destination from layer 2 link information in said path specification means is done under software control by a processor, and the path connection means that connects said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device to a path specified by said processor after said path is specified, is constituted by a switching means by means of hardware.

15. (canceled)

84225065_1